

WHAT IS CLAIMED IS:

1. An image processing apparatus, comprising:

a) input means for inputting image data;

5 b) generation means for generating security data for protecting said image data;

c) division means for dividing said image data into blocks;

10 d) encoding means for encoding said image data in the unit of said block, adaptively utilizing an intrapicture encoding mode and an interpicture encoding mode;

15 e) selection means for selecting said encoding mode, said selection means selecting the encoding mode in such a manner that the image data of an arbitrary block in an image are subjected to intrapicture encoding at least once within n images according to said security data; and

20 f) output means for outputting security data generated by said generation means, image data encoded by said encoding means, and encoding mode data indicating the encoding mode selected by said selection means.

25 2. An apparatus according to claim 1, wherein said selection means selects the encoding mode in such a manner that the image data of all the blocks in a picture are subjected to intrapicture encoding for every m pictures.

3. An apparatus according to claim 1, wherein said encoding means executes encoding based on the H.263 encoding method.

5 4. An apparatus according to claim 1, wherein said encoding means executes encoding based on the MPEG encoding method.

10 5. An apparatus according to claim 1, wherein said security data are IPMP (intellectual property management and protection) data for protecting the copyright of said image data.

15 6. An image processing method, comprising steps of:

- a) inputting image data;
- b) generating security data for protecting said image data;
- c) dividing said image data into blocks;
- 20 d) encoding said image data in the unit of said block, adaptively utilizing an intrapicture encoding mode and an interpicture encoding mode;
- e) selecting said encoding mode, said selecting step selecting the encoding mode in such a manner that the
- 25 image data of an arbitrary block in a picture are subjected to intrapicture encoding at least once within n pictures according to said security data; and

f) outputting said generated security data, said encoded image data, and encoding mode data indicating the selected encoding mode.

5        7. A computer readable memory medium storing codes of an image processing program, the codes comprising:

a) a code of an input step of inputting image data;

b) a code of a generation step of generating security data for protecting said image data;

10      c) a code of a division step of dividing said image data into blocks;

15      d) a code of an encoding step of encoding said image data in the unit of said block, adaptively utilizing an intrapicture encoding mode and an interpicture encoding mode;

20      e) a code of a selection step of selecting said encoding mode, said selection step selecting the encoding mode in such a manner that the image data of an arbitrary block in a picture are subjected to intrapicture encoding at least once within n pictures according to said security data; and

25      f) a code of an output step of outputting said generated security data, said encoded image data, and encoding mode data indicating the selected encoding mode.

8. An image processing apparatus, comprising:

a) input means for inputting image data encoded by dividing an image into plural blocks and adaptively selecting intrapicture encoding and interpicture encoding in the unit of said block and security data for protecting said image data;

b) discrimination means for discriminating, based on said security data, whether the reproduction of said encoded image data is permitted;

c) encoding mode judging means for judging the encoding mode of said encoded image data in the unit of said block;

d) decoding means for decoding the image data input by said input means;

e) memory means for storing the image data decoded by said decoding means; and

f) control means for controlling the readout of the image data stored in said memory means according to the outputs of said discrimination means and said encoding mode judging means.

9. An apparatus according to claim 8, wherein, in case said discrimination means discriminates that the reproduction of said image data is not permitted, said input means stops the supply of the image data to said decoding means.

10. An apparatus according to claim 9, wherein, in

case said discriminates means discriminates that the reproduction of said image data is shifted from a non-permitted state to a permitted state, said control means reads the image data stored in said memory means from a time where all the image data in a picture are decoded without utilizing the image data during a period in which the reproduction is not permitted.

11. An apparatus according to claim 8, further comprising:

display means for displaying image data read by said control means.

12. An apparatus according to claim 8, wherein said encoded image data are based on the MPEG-1 encoding method.

13. An apparatus according to claim 8, wherein said encoded image data are based on the MPEG-2 encoding method.

14. An apparatus according to claim 8, wherein said encoded image data are based on the H.263 encoding method.

15. An apparatus according to claim 8, wherein said security data are data for protecting the copyright of

said image data.

16. An apparatus according to claim 8, wherein said security data are IPMP (intellectual property  
5 management and protection) data.

17. An apparatus according to claim 8, wherein, in said encoded image data, an arbitrary block in a frame is subjected to inframe encoding at least once in n  
10 pictures.

18. An image processing method comprising steps of  
a) inputting image data encoded by dividing an image into plural blocks and adaptively selecting  
15 intrapicture encoding and interpicture encoding in the unit of said block and security data for protecting said image data;

b) discriminating, based on said security data, whether the reproduction of said encoded image data is  
20 permitted;

c) judging the encoding mode of said encoded image data in the unit of said block;  
d) decoding said input image data;  
e) storing said decoded image data; and  
25 f) controlling the readout of the image data stored in said memory means according to the outputs of said discrimination step and said encoding mode judging

09075857-050001

step.

19. A computer readable memory medium storing  
program codes of an image processing program, the codes  
5 comprising:

- 10 a) a code of an input step of inputting image data  
encoded by dividing an image into plural blocks and  
adaptively selecting intrapicture encoding and  
interpicture encoding in the unit of said block and  
security data for protecting said image data;
- b) a code of a discrimination step of discriminating,  
based on said security data, whether the reproduction  
of said encoded image data is permitted;
- 15 c) a code of an encoding mode judging step of judging  
the encoding mode of said encoded image data in the  
unit of said block;
- d) a code of a decoding step of decoding said input  
image data;
- 20 e) a code of a memory step of storing said decoded  
image data; and
- f) a code of a control step of controlling the readout  
of the image data stored in said memory means according  
to the outputs of said discrimination step and said  
encoding mode judging step.